

REMARKS

Claims 17-26 are pending in this application, claims 24-26 having been previously withdrawn. Claims 17-23 are rejected.

Responsive to the rejection of claims 17-20 and 23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,771,197 (Ivanto et al.) in view of U.S. Patent No. 6,191,511 (Zysset), Applicant respectfully traverses the rejection of claim 17. Accordingly, Applicant submits that claim 17, and claims 18-23 depending therefrom, are now in condition for allowance.

Ivanto et al. discloses a frequency converter-controlled squirrel cage motor particularly for use in elevator operation. The motor's stator is mounted on a stationary axle and the rotor rotating around the stator has been rotatably carried on the same axle. (Abstract).

Zysset discloses an asynchronous electric motor includes, to assure efficient cooling and a temperature balance between the stator 1 and the rotor 2, a closed cooling liquid circuit which passes successively into stator 1 and into shaft 3 of rotor, over the entire length of the stator and the rotor. A pump 15 is incorporated in the rotor shaft. The liquid is injected into the pump by a stationary axial tube 16 and comes out again between the shaft and this tube. The pump includes a centrifugal pumping member 20 fixed to the bottom of the bore of the shaft, and longitudinal blades 21 fixed to the shaft facing an external helicoids rib 17 of the injection tube. The liquid is cooled by the ambient air along the periphery of the stator. (Abstract). A cooling circuit is provided which is completely closed within the motor, requiring neither an external pump, nor connection to an external radiator. (Column 1, lines 39-41). The motor is autonomous from the point of view of its cooling, since it requires neither an external pump, nor an external radiator, nor any external fluid conduit. This allows an entirely encapsulated construction. (Column 3, lines 36-42)(Fig. 1).

In contrast, claim 17 recites in part “a stator; a hollow non-rotary shaft carrying said stator; a plurality of bearings connected to said non-rotary shaft; a rotor rotatably positioned around said stator, said rotor being rotatably carried by said bearings; and a machine actuator having a functional part with a short circuit arrangement associated with said rotor for operating said actuator, said short circuit arrangement includes hollow short circuit conductors connected to said rotor, said hollow short circuit conductors being in fluid communication with an external airflow source by way of the hollow portion of said hollow non-rotary shaft.” (Emphasis added). Applicant submits that such an invention is neither taught, disclosed or suggested by Ivanto et al. and Zysset, or any of the other cited references, alone or in combination, and includes distinct advantages thereover.

Ivanto et al. teaches cooling which may be provided for the motor by providing the cylinder 1 with radial ventilation apertures, and likewise apertures in the stator. (Column 2, lines 13-15). Ivanto et al. does not disclose flowing cooling fluid through stationary axle 4. Further, Zysset teaches having a closed cooling liquid circuit which is closed within the motor. Zysset thus teaches a sealed interior, as indicated above, and therefore teaches away from using an external airflow source. Applicant thus submits that a person of ordinary skill in the art would not have combined Zysset with Ivanto et al. Consequently, Ivanto et al. and Zysset fail to disclose hollow short circuit conductors being in fluid communication with *an external airflow source by way of the hollow portion of the hollow non-rotary shaft.*

An advantage of Applicant's invention is that air is routed from an external source in the parallel manner through both the hollow rotary shaft and the hollow short circuit conductors. This allows an increase in the maximum output of the motor and allows the air to directly cool the motor without requiring the heat to be transferred through an intervening structure. Another

advantage of the present invention is that it allows for an increased number of starts and stops of the motor.

For the foregoing reasons, Applicants submit that claim 17, and claims 18-23 depending therefrom, are now in condition for allowance, which is hereby respectfully requested.

Claims 21-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ivanto et al. in view of “Soitu” and further in view of U.S. Patent No. 4,761,602 (Leibovich). Presumably, the Office Action intended to include Zysset in place of Soitu considering that the discussion of this rejection on pages 3 and 4 of the Office Action refer to Zysset, not Soitu. In any event, claims 21-22 depend from claim 17, which is in condition for allowance for the reasons given above. Accordingly, Applicants submit that claims 21-22 are also now in condition for allowance, which is hereby respectfully requested.

For the foregoing reasons, Applicant submits that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby conditionally petitions therefor and authorizes that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (260) 897-3400.

Respectfully submitted,

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